AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior version, and listings, of claims in this application:

Listing of Claims:

1. (Original) A method of managing a power supply for an electronic device, the power supply having a rechargeable battery source and an auxiliary power source, said method comprising the steps of:

implementing a measuring circuit to measure parametric data of the rechargeable battery source during operational charging and discharging cycles with the electronic device;

checking for temporary removal of the rechargeable battery source from operation of the device; and

testing the measuring circuit for offset error, if power from the rechargeable battery source has been temporarily removed, before resuming said implementing step.

2. (Original) The method according to claim 1, wherein said testing step further comprising the sub-step of correcting the measuring circuit in the case of an offset error.

3. (Original) The method according to claim 1, wherein the device can be temporarily powered by the auxiliary power source during said testing step.

4. (Original) The method according to claim 1, wherein said parametric data includes cumulative charge.

5. (Original) The method according to claim 1, wherein said electronic device is an implantable medical device.

6. (Original) The method according to claim 5, wherein the implantable medical device is a prosthetic hearing implant system.

7. (Original) A power supply for an electronic device, said power supply comprising:

a rechargeable battery source configured for cyclical charging and discharging by said electronic device;

a measuring circuit for measuring parametric data during said charging and discharging;

an auxiliary power source being able to power said electronic device independently of said battery source; and

a testing circuit for testing said measuring circuit for offset error; and

a circuit for reducing current flow from said rechargeable battery to said device to a minimal value;

wherein said testing circuit is enabled during said isolation of said rechargeable battery from said device.

8. (Original) The power supply according to claim 5, wherein said testing circuit corrects any offset error before current is restored to said device from said rechargeable battery.

9. (Original) The power supply according to claim 5, wherein said parametric data includes cumulative charge.

10. (Original) The power supply according to claim 7, wherein said electronic device is an implantable medical device.

11. (Original) The power supply according to claim 10, wherein the implantable medical device is a receiver/stimulator unit of a prosthetic hearing implant system.

12. (Original) A system for operating a rechargeable battery, said system comprising:

current maintaining means for maintaining a predetermined current to said rechargeable battery until said rechargeable battery reaches a predetermined maximum voltage;

voltage maintaining means for maintaining a predetermined voltage to said rechargeable battery until a predetermined minimum current is delivered to said rechargeable battery;

determining means for determining a cyclical charge value delivered to said rechargeable battery by said current maintaining means and said voltage maintaining means during a cycle; and

correction means for correcting said determining means when charge is not being delivered to said rechargeable battery, on the basis of said charge value.

13. (Original) The system according to claim 12, wherein said voltage maintaining means engages after said rechargeable battery reaches said predetermined maximum voltage by said current maintaining means.

14. (Original) The system according to claim 12, wherein said determining means comprises a current integration means for integrating current delivered to said rechargeable battery.

15. (Original) The system according to claim 12, wherein said predetermined current and said predetermined minimum current are different.

16. (Original) The system according to claim 12, wherein said predetermined voltage and said predetermined maximum voltage are different.

17. (Original) The system according to claim 12, wherein said predetermined current may be dynamically adjusted based on parameters of said rechargeable battery.

18. (Original) The system according to claim 12, wherein said predetermined voltage may be dynamically adjusted based on parameters of said rechargeable battery.

19. (Original) The system according to claim 12, wherein said predetermined minimum current may be dynamically adjusted based on parameters of said rechargeable battery.

20. (Original) The system according to claim 12, wherein said predetermined maximum voltage may be dynamically adjusted based on parameters of said rechargeable battery.

21. (Original) The system according to claim 12, wherein said predetermined maximum voltage is less than 57.6 volts.

22. (Original) The system according to claim 12, wherein said predetermined minimum current is less than 1 ampere.

23. (Original) The system according to claim 12, wherein said rechargeable battery is used for an implantable medical device.

24. (Original) The system according to claim 23, wherein said implantable medical device is a prosthetic hearing implant.

25. (Original) The system according to claim 24, wherein said prosthetic hearing implant is a totally implantable prosthetic hearing implant.

26. (Original) An apparatus for characterizing a rechargeable battery, said apparatus comprising:

a current limited source for delivering , during a first charging stage, a current flow to said rechargeable battery, until said rechargeable battery reaches a predetermined maximum voltage;

a voltage limited source for maintaining, during a second charging stage, a substantially constant voltage to said rechargeable battery, until a current flow delivered to said rechargeable battery is below a predetermined minimum current;

an integrator configured to integrate current flow delivered to said rechargeable battery during the first and second calibration stages;

threshold detector means configured to signal a unit count of charge upon detection of a predetermined level of charge indicated by the output from said integrator; and

correlator configured to correlate a total number of unit counts of charge during said first and second calibration stages with said predetermined maximum voltage and said predetermined minimum current.

27. (Original) The apparatus according to claim 26, wherein said second calibration stage commences after completion of said first calibration stage.

28. (Original) A computer readable medium, having a program recorded thereon, where the program is configured to make a computer execute a procedure to operate a rechargeable battery, said procedure comprising the steps of:

characterizing the battery comprising the sub-steps of:

(i) delivering a substantially constant current to said rechargeable battery until said rechargeable battery reaches a predetermined maximum voltage;

(ii) delivering a substantially constant voltage to said rechargeable battery until a predetermined minimum current is delivered to said rechargeable battery; and

(iii) determining a delivered charge value delivered to said rechargeable battery by sub-steps (i) and (ii); and

cyclically charging and discharging of said rechargeable battery according to said determined delivered charge value.

29. (Original) A battery charger for an electronic device, said battery charger comprising:

a rechargeable battery source configured for cyclical charging and discharging by said electronic device;

a measuring circuit for measuring parametric data during said charging and discharging;

an auxiliary power source being able to power said electronic device independently of said battery source; and

a testing circuit for testing said measuring circuit for offset error; and

a circuit for reducing current flow from said rechargeable battery to said device to a minimal value;

wherein said testing circuit is enabled during said isolation of said rechargeable battery from said device.

30. (Original) The battery charger according to claim 29, wherein said testing circuit corrects any offset error before current is restored to said device from said rechargeable battery.

31. (Original) The battery charger according to claim 29, wherein said parametric data includes cumulative charge.

32. (Original) The battery charger according to claim 29, wherein said electronic device is an implantable medical device.

33. (Original) The battery charger according to claim 29, wherein the implantable medical device is a receiver/stimulator unit of prosthetic hearing implant system.

34. (Original) A prosthetic hearing implant system comprising:

a battery charger comprising:

a rechargeable battery source configured for cyclical charging and discharging by said electronic device;

a measuring circuit for measuring parametric data during said charging and discharging;

an auxiliary power source being able to power said electronic device independently of said battery source; and

a testing circuit for testing said measuring circuit for offset error; and

a disconnection circuit for isolating current flow from said rechargeable battery to said device;

wherein said testing circuit is enabled during said isolation of said rechargeable battery from said device.

35. (Original) The prosthetic hearing implant system according to claim 34, comprising:

a battery charger wherein said testing circuit corrects any offset error before current is restored to said device from said rechargeable battery.

36. (Original) The prosthetic hearing implant system according to claim 34, comprising:

the battery charger wherein said parametric data includes cumulative charge.

37. (Original) The prosthetic hearing implant system according to claim 34, comprising:

the battery charger wherein said electronic device is an implantable medical device.

38. (Original) The prosthetic hearing implant system according to claim 34, comprising:

the battery charger wherein the implantable method device is a receiver/stimulator unit of prosthetic hearing implant system.